

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington D.C. 20554**

In the Matter of)

AT&T Corp.)

Petition for Rulemaking To Reform)
Regulation Of Incumbent Local Exchange)
Carrier Rates For Interstate Special)
Access Services)

WC Docket No. 02-____

DECLARATION OF STEPHEN FRIEDLANDER

1. My name is Stephen Friedlander. I am a manager in the Law and Government Affairs Department at AT&T. My responsibilities include analysis of LEC financial data and tariff filings in support of AT&T's position on interstate access matters. I obtained a B.A. degree from Boston University in 1971 and a Ph.D. in economics from the University of Colorado in 1977
2. I have calculated the Regional Bell Operating Companies' ("RBOC) rates of return for interstate special access services. These calculations are based on data the RBOCs filed in their ARMIS 43-01 reports. The ARMIS 43-01 report contains basic financial data - revenues, expenses, reserves, and investments - from which local exchange companies ("LECs") calculate their net returns and rates-of-return.
3. The data in the ARMIS 43-01 reports are provided on a state-by-state basis. That data includes the LECs' "net return" for special access (line 1915, column s), and the LECs'

“average net investment” for special access (line 1910, column s). Rates-of-return are computed by dividing the reported “net returns” by the reported “average net investments.”

4. Because the data are reported on a state-by-state basis, my calculations aggregate the state data to obtain net return and average net investment at the company level. This calculation is very simple. All that is required is to sum the return and investment figures for special access in each state to obtain company-wide totals, and then calculate the percentage of total return to total investment for each company.
5. The results of these calculations are summarized in Exhibit 1 (attached). As illustrated by Exhibit 1, every RBOC has enjoyed substantially increasing rates-of-return every year since 1996, and last year these returns exceeded 37 percent for most of the RBOCS.
6. I have also provided a separate table (Exhibit 2) setting forth the RBOCs’ annual revenues from special access since 1996. Once again, every RBOC has enjoyed substantial growth in special access revenues every year since 1996, and total RBOC/GTE special access revenues have more than tripled since 1996, from \$3.4 billion to \$12.0 billion.
7. **As** these results indicate, SBC’s special access revenues in 2001 exceeded amounts that would have produced an 11.25% rate of return by \$2.5 billion, allowing for a 40% marginal income tax rate. For the same year, Verizon, BellSouth, and Qwest earned amounts that exceeded an 11.25% return by more than \$1 billion, \$966 million, and \$710 million, respectively.

RBOC SPECIAL ACCESS EARNINGS (IN THOUSANDS)

		<u>Average Net Investment</u> *	<u>Net Return</u> **	<u>Rate of Return</u>
BellSouth				
	1996	679,773	109,946	16.17%
	1997	763,053	133,008	17.43%
	1998	767,838	240,243	31.29%
	1999	898,339	290,944	32.39%
	2000	1,247,668	457,590	36.68%
	2001	1,525,302	751,379	49.26%
Qwest				
	1996	862,193	46,133	5.35%
	1997	856,845	116,455	13.59%
	1998	815,296	222,105	27.24%
	1999	944,811	304,047	32.18%
	2000	1,181,070	453,235	38.37%
	2001	1,206,625	562,002	46.58%
SBC				
	1996	1,753,989	221,594	12.63%
	1997	1,904,567	304,980	16.01%
	1998	2,147,399	526,036	24.50%
	1999	2,213,592	875,456	39.55%
	2000	2,907,473	1,257,433	43.25%
	2001	3,531,727	1,928,324	54.60%
Verizon***				
	1996	2,385,403	51,012	2.14%
	1997	2,831,074	59,532	2.10%
	1998	3,402,154	290,073	8.53%
	1999	4,365,775	437,343	10.02%
	2000	5,101,276	797,119	15.63%
	2001	5,768,191	1,252,839	21.72%
Verizon (w/o NYNEX)				
	1996	1,714,759	47,364	2.76%
	1997	1,747,972	181,474	10.38%
	1998	2,228,025	302,309	13.57%
	1999	2,496,655	571,908	22.91%
	2000	2,801,863	836,684	29.86%
	2001	3,135,740	1,162,658	37.08%

* 1996-2001 ARMIS 43-01, Table I. Cost and Revenue Table, Special Access, Column (s), Average Net investment, Row 1910.

** 1996-2001 ARMIS 43-01, Table I. Cost and Revenue Table, Special Access, Column (s). Net Return, Row 1915.

*** Verizon includes Verizon-North. Verizon-South and GTE.

RBOC SPECIAL ACCESS REVENUES (IN THOUSANDS)'

	<u>BellSouth</u>	<u>Qwest</u>	<u>SBC</u>	<u>Verizon</u>
1996	\$508,929	\$429,790	\$1,217,546	\$1,281,907
1997	\$599,609	\$566,877	\$1,494,486	\$1,639,877
1998	\$762,893	\$715,333	\$1,954,938	\$2,093,947
1999	\$919,988	\$921,313	\$2,480,544	\$2,810,67
2000	\$1,233,258	\$1,226,016	\$3,405,544	\$3,724,88
2001	\$1,831,143	\$1,528,226	\$4,294,276	\$4,353,03

* Source: ARMIS 43-01, Row 1090, Column (s)

I, Stephen Friedlander, declare under penalty of perjury that the foregoing is true and correct.



Stephen Friedlander

Executed on September 25, 2002

- 3 I have written extensively on a wide range of antitrust and telecommunications topics, such as mergers and joint ventures, predatory conduct and entry barriers. My antitrust articles have appeared in the *Yale Law Journal*, the *Harvard Law Review*, the *Columbia Law Review*, and many other journals, monographs and books, here and abroad.
- 4 I have lectured extensively on antitrust topics to the American Bar Association, the International Bar Association, and the Federal Trade Commission (“FTC”). I have participated in numerous hearings on the future of antitrust at the FTC. I have also lectured on antitrust policy at colleges and universities in the United States and abroad, and at many conferences and meetings sponsored by various legal organizations.
5. I have acted as a consultant on antitrust and other competition matters to the DOJ, the FTC, and the post-communist governments of Poland, Russia, and Hungary. I have also consulted for the World Bank and the Organization for Economic Cooperation and Development in Paris. I have acted as a consultant in numerous antitrust litigation and investigations, including market definition and anti-competitive conduct matters for the FTC, Department of Justice and private clients in the United States, Australia, Germany and the European Union.
6. I have been involved in telecommunications issues in a variety of forums, such as the FCC, the OECD, and as a consultant to AT&T, Telstra, TelstraClear, and the governments of Argentina and various Eastern European countries.

B. Professor Willig

- 7 My name is Robert D. Willig. I am Professor of Economics and Public Affairs at the Woodrow Wilson School and the Economics Department of Princeton University, a

position that I have held since 1978. Before that, I was Supervisor in the Economics Research Department of Bell Laboratories. My teaching and research have specialized in the fields of industrial organization, government-business relations and welfare theory.

8. I served as Deputy Assistant Attorney General of Economics in the Antitrust Division of the United States Department of Justice from 1989 to 1991. I also served on the Defense Science Board task force on the antitrust aspects of defense industry consolidation and on the Governor of New Jersey's task force on the market pricing of electricity.
9. I am the author of *Welfare Analysis of Policies Affecting Prices and Products; Contestable Markets and the Theory of Industry Structure* (with W. Baumol and J. Panzar); and numerous articles, including "Merger Analysis, IO theory, and Merger Guidelines." I am also a co-editor of *The Handbook of Industrial Organization*, and have served on the editorial boards of the *American Economic Review*, the *Journal of Industrial Economics* and the MIT Press Series on regulation. I am an elected Fellow of the Econometric Society and an associate of The Center for International Studies.
10. I have been active in both theoretical and applied analysis of telecommunications issues. Since leaving Bell Laboratories, I have been a consultant to AT&T, Telstra and New Zealand Telecom, and have testified before the U.S. Congress, the Federal Communications Commission, and the public utility commissions of about a dozen states. I have been on government and privately supported missions involving telecommunications throughout South America, Canada, Europe, and Asia. I have written and testified on such subjects within telecommunications as the scope of competition, end-user service pricing and costing, unbundled access arrangements and pricing, the design of regulation and methodologies for assessing what activities should

be subject to regulation, directory services, bypass arrangements, and network externalities and universal service. On other issues, I have worked as a consultant with the Federal Trade Commission, the Organization for Economic Cooperation and Development, the Inter-American Development Bank, the World Bank and various private clients.

II. PURPOSE AND SUMMARY OF TESTIMONY

11. In this declaration, we discuss the appropriate regulatory treatment of special access services provided by the regional Bell operating companies ("RBOCs"). As we have explained in previous filings, the Commission should refrain from regulating where markets are workably competitive. Where markets are functioning well, there is no justification for undertaking the daunting task of substituting regulation for market processes to establish optimal prices, quantities, technologies and business models.
12. We have also made clear, however, that when a local exchange carrier controls an essential facility in a relevant market, and has incentive to abuse its market power, regulation is not only appropriate but necessary. Competitive forces cannot constrain the pricing and quality decisions of firms with such market power, and they inevitably will charge supracompetitive rates and attempt to withhold critical inputs that would allow others to challenge their supremacy. The result is a misallocation of resources caused by supracompetitive prices, and possibly wasteful spending by the monopolist to preserve its dominance.
13. We have also made clear in the past that there is no one-size-fits-all regulatory scheme. Regulatory commissions should be free to develop new ways of replicating market forces that are less costly and cumbersome. In this regard, we applaud the Commission's

attempts to engage in precisely this type of experimentation in connection with regulation of special access services.

14. In the 1990s, the Commission shifted from traditional rate of return regulation of the RBOCs' (and other large incumbents') special access charges to a price cap method. The price cap regime originally contained numerous protections for consumers, such as the "sharing" mechanism (which required price cap reductions if the RBOCs' rates of return exceeded a certain threshold) and the X-Factor (which required annual reductions for anticipated gains in productivity). Significantly, the rate of return threshold under the Commission's previous rules was never higher than 17.25%: that level triggered 100% sharing by the RBOCs
15. Ultimately, the Commission recognized that, to the extent possible, the best way to regulate RBOC special access rates was to subject them to competition from other facilities-based providers. Thus, even prior to the adoption of the Telecommunications Act of 1996, the Commission issued a series of orders designed to promote exchange access competition and eliminate the *de facto* monopoly franchises that the RBOCs had enjoyed up to that time.
16. As we explain in greater detail below, the economic structure of this market has hampered the emergence of special access competition. Nevertheless, some competitors were able to enter on a facilities basis in some dense urban areas and provide alternative access services for the largest business customers. Seizing upon this nascent "Competition," the RBOCs petitioned the Commission for forbearance from existing dominant carrier regulations. In several proceedings involving forbearance requests by individual RBOCs, we filed testimony cautioning against the sweeping relief from

regulation that the RBOCs were seeking¹ Our testimony showed that the deregulatory relief sought by the RBOCs was far broader than the scope of competition that they faced and, therefore, would deregulate RBOC special access rates even in relevant markets where the RBOCs faced little, or no, effective competition

17. The Commission's 1999 *Pricing Flexibility Order*,² however, undertook a radical change from its prior regulatory schemes: the Commission established "triggers" that permit incumbent carriers to remove special access services from price cap regulation altogether. While acknowledging that the incumbent carriers continued to be dominant, the Commission decided that the incumbents could not exercise market power wherever they faced competition from competitive local exchange carriers ("CLEW") with sunk facilities. The Commission also adopted the triggers that, it predicted, would accurately measure the existence of irreversible competition in the geographically appropriate markets.'

18 The purpose of our testimony is to evaluate these predictions in light of the last three years of experience We conclude that the conduct and performance of the RBOCs since 1999 provide unambiguous evidence that the RBOCs, far from facing effective

¹ See Declaration of Janusz Ordovery and Robert Willig on behalf of AT&T in CC Docket No. 99-65, *Petition of Ameritech for Forbearance from Dominant Carrier Regulation & its Provision of High Capacity Services in the Chicago LATA* (March 31, 1999); Declaration of Janusz Ordovery and Robert Willig on behalf of AT&T in CC Docket No. 99-24, *Petition of Bell Atlantic Telephone Companies for Forbearance from Regulation as Dominant Carriers in Delaware; Maryland; Massachusetts; New Hampshire; New Jersey; New York; Pennsylvania; Rhode Island; Washington, D.C.; Vermont; and Virginia* (March 18, 2001).

² *Pricing Flexibility Order*, 14 FCC Rcd. 14221 (1999)

³ See *id.* ¶¶ 3, 69-70.

competition for their special access services, enjoy monopoly power that is virtually unchecked. See *infra* Part III. The RBOCs' special access services generate returns on investment as high as 56 percent per year—even using the RBOCs' embedded investment dollars in ARMIS as a measure of the RBOCs' net investment—and much higher rates of return on the forward-looking economic value of the RBOCs' investment. The RBOCs have been able to sustain large increases over their already excessive rates in recent years, and have failed to make even a gesture of reducing rates where the Commission has authorized downward pricing flexibility. Furthermore, we understand that the quality of service provided in return for these prices has been poor.

19. We also explain why, despite the RBOCs' high prices, supracompetitive returns, and poor service, virtually no significant entry by competitors has occurred. See *infra* Part IV. This absence of competitive reaction and market restraint is precisely what an economist should predict from the daunting and enduring barriers to competitive entry that protect the incumbents. Transmission facilities are characterized by large economies of scale and by *sunk* costs. Further, there are powerful barriers to entry by second-mover CLECs that would compete with incumbents that already possess facilities capable of serving all existing demand.
20. Finally, we explain that the harms of allowing the RBOCs to exercise unchecked market power go beyond high rates, but also will allow the RBOCs to impede competition from competitive providers of access and other local services, purchasers of access services, and consumers of telecommunications services. See *infra* Part V. Facilities-based entry can be thwarted by these tactics because competitors need access to incumbent loop-transport facilities both to deploy local switches and as a “bridge” for self-deploying

facilities. The Commission's rules have prevented CLECs from obtaining these facilities as cost-based UNEs and instead have forced CLECs to use the supra-competitively priced special access as a substitute. Pricing flexibility has also given the RBOCs the ability to heighten the perceived entry risks facing the CLECs by responding with deep price reductions whenever a competitor actually achieves facilities-based entry or by locking up customers needed by a potential entrant to support competitive entry. These strategies appear to have deterred entry that would have reduced prices and improved consumer welfare. Finally, the RBOCs' monopoly power over special access can harm competition in long distance services (and any "bundled" offering that contains long distance components), as the RBOCs increasingly have an incentive to use special access pricing to effect anticompetitive price squeezes against unaffiliated long distance carriers.

III. THE CONDUCT AND PERFORMANCE OF THE RBOCS SINCE 1999 HAS REFUTED THE COMMISSION'S PREDICTION THAT MARKET FORCES WOULD CONSTRAIN THE RBOCS' SPECIAL ACCESS PRICING.

21. As noted above, the Commission's 1999 *Pricing Flexibility Order* established "triggers" that, when satisfied, allow nearly complete deregulation of the incumbents' special access offerings. As we and AT&T showed previously, these triggers were misconceived. First, the Commission granted the MSA-wide deregulation of rates based on a showing that only a relatively small percentage of the relevant routes in the MSA had facilities-based competitive alternatives. Thus, these triggers permitted deregulation of a large geographic area—an entire MSA—even if collocation arrangements were limited to a few offices. Second, the triggers for the transport elements of special access were overbroad, because they authorized the deregulation of all of the transport rate elements even though the Commission's "fiber-based collocation" test generally indicated the

presence of competitive facilities along only one piece-part of transport – entrance facilities Third, the channel termination trigger was even more flawed, because it permitted deregulation of channel termination rates based solely on the deployment of *transport* – a deployment that in no way implies that competitors have deployed their own loops

22. Experience has now exposed the flaws in the Commission’s prediction that the triggers actually measured the existence of sunk, competitive alternatives that constrain special access market power. Since receiving pricing flexibility for services producing a majority of their special access revenues, the RBOCs have earned increasing supra-competitive profits – whether measured on the basis of historical or economic costs. The quality levels of these services have declined over this same period. And despite charging higher prices for lower quality, the RBOCs’ special access revenues and usage have continued to grow. The reason for this is simple. The RBOCs’ special access customers have no effective alternatives.

A. The **RBOCs** Have Earned Large And Growing Supra-Competitive Profits From Their Special Access Rates.

23. In effectively competitive markets, returns significantly exceeding a competitive cost of capital are unsustainable because market forces limit prices over the long run to forward-looking, economic costs. Economic costs, of course, include the cost of obtaining debt and equity capital. But in competitive markets, debt and equity investors earn – and a company can pay – no more than the “normal” profits needed to compensate investors for the risk of the investment. Any attempt by a firm in an effectively competitive market to charge prices that would generate more than a normal, risk-adjusted rate-of-return would

cause the firm to lose business to other firms that limited their prices to the lower levels needed to attract and retain investment capital. It is precisely for these reasons that the very definition of supra-competitive profit is return in excess of risk-adjusted normal profits

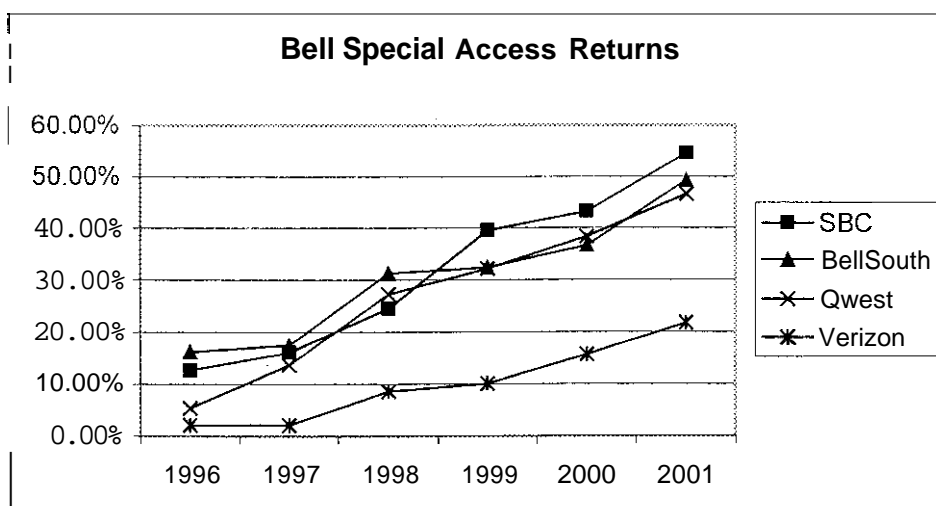
24. The returns being earned by the RBOCs on special access services are well in excess of those that would be earned by providers of special access facing effective market competition. The RBOCs' own ARMIS reports to the Commission establish that their rates of return on special access are multiples of the 11.25% rate of return that the Commission has previously found just and reasonable for dominant incumbent services. For 2001, the RBOCs' special access rates of return were as follows:⁴

BellSouth	49.26%
Qwest	46.58%
SBC	54.60%
Verizon	21.72%
Verizon (without NYNEX)	37.08%

25. These supra-competitive rates of return are the fruit of overcharges in dollar terms. For 2001 alone, the RBOCs' excessive special access prices generated approximately \$5 billion of excessive earnings for the RBOCs from consumers and other downstream

⁴ The figures and charts pertaining to the RBOCs' rates of return cited in this section are based on the work performed by Mr. Friedlander in his accompanying declaration.

customers.⁵ The trend in the Bells' excess returns from special access is even more striking. As the following chart demonstrates, the RBOCs' interstate special access rates of return continue to grow every year, with no exceptions. Furthermore, the year-to-year increases are quite dramatic; each RBOC's rate of return is now at least five times higher, and in some cases *10 times higher*, than in 1996.



26. Even higher are the RBOCs' returns on the forward-looking economic value of their investment—the economically relevant measure of the return on investment. The costs reported on the RBOCs' ARMIS reports are, of course, embedded costs. **And**, as the Commission and the courts have consistently recognized, the RBOCs' true costs of providing services over their local networks are their much lower forward-looking

⁵ Assuming an income tax rate of 40 percent, approximately \$3 billion of these excess earnings are retained by the RBOCs as monopoly rents.

economic costs.⁶ The RBOCs' special access rates exceed their economic costs by an enormous margin.

27. One way to estimate the magnitude of this margin is to compare the RBOCs' rates for special access services with the same carriers' rates for the most comparable loop and transport elements. Special access services are provided over the same facilities and are functionally equivalent to high capacity loop and transport unbundled network elements. Yet, the RBOCs' special access rates are generally at least double their comparable UNE rates. The Stith Declaration compares, on a state-by-state basis, the RBOCs' tariffed interstate special access rates with the rates for the comparable unbundled network elements in that state. For services still subject to price cap regulation, the RBOCs' month-to-month DSI and DS3 special access rates are often more than 100% higher than the comparable UNE rates, and sometimes they are even 200% or 400% higher. Thus, if the RBOCs' annual special access returns are calculated on the basis of their *economic* costs, as indicated by UNE rates, rather than their embedded costs, it becomes clear that their real returns on these services are enormous – typically in excess of 100 percent annually. This is powerful evidence that the RBOCs have market power in the provision of special access services to end users and other carriers.

⁶ See, e.g., *Local Competition Order*, 11 FCC Rcd. 15499, ¶ 679 (1996) (“We believe that our adoption of a forward-looking cost-based pricing methodology . . . establish[es] prices . . . based on costs similar to those incurred by the incumbents.”); *Verizon Communications Inc. v. FCC*, 122 S. Ct. 1646, 1672 (2002) (costs that exceed TELRIC are inefficient costs); *Alenco Communications Co. v. FCC*, 201 F.3d 608, 615 (5th Cir. 2000) (“rates must be based not on *historical, booked costs*, but rather on *forward-looking, economic costs*. After all, market prices respond to current costs; historical investments, by contrast, are sunk and thus ignored.”).

B. The RBOC Pricing Behavior Provides Further Evidence Of Their Market Power in Special Access.

28. The RBOCs' pricing behavior offers yet further evidence that the RBOCs exercise substantial market power. As AT&T explains in its Petition, in *every* MSA where the RBOCs have obtained "Phase II" pricing flexibility (*i.e.*, removal of special access from price caps), the RBOCs have maintained or even *raised* their tariffed month-to-month special access rates. Indeed, both BellSouth and Verizon have increased their tariffed month-to-month special access rates in every MSA in which they have been awarded Phase II pricing flexibility since 1999.⁷
29. The effect of removing rates for special access from RBOCs' price caps can be measured directly because the Commission requires price-cap incumbent carriers to continue to file their rates in tariffs even after receiving Phase II pricing flexibility. As AT&T explains in its Petition, the tariffed rate in Phase II MSAs no longer subject to price cap regulation is equal to or higher than the rate for the same service in areas that remain subject to price cap regulation for virtually every special access service in every state for every Bell.⁸
30. It is our understanding that the RBOCs' have defended their rate hikes by citing the Commission's statement in the *Pricing Flexibility Order* (§ 155) that "some access rate increases may be warranted, because our rules may have required incumbent LECs to price access services below cost in certain areas." But such a claim is unsustainable from an economic perspective, As the charts above show, the RBOCs' rates of return were

⁷ Stith Decl., Exhibit I

⁸ *Id.* The only exception is Ameritech's rates for OC-3, the pricing flexibility rate is one percent lower than the price cap rate.

already above any plausible measure of their cost of capital *before* the increases. Indeed, it is notable that after most special access has now been removed from price caps, the RBOCs have not seen fit to respond to any claimed instances of competition by lowering their generally available tariffed rates in *any* of those MSAs.

C. The Quality of Special Access Service Provided By The RBOCs **Has** Been **Poor**, But Revenues And Usage Have Continued To Increase.

- 31 Other evidence of the RBOCs' monopoly power over special access is the poor quality of their performance in provisioning special access services⁹ The Joint Competitive Industry Group, which represents a spectrum of purchasers of special access (including non-carrier end-user customers), has documented the poor quality of the incumbents' performance over the last few years¹⁰ The ability of the RBOCs to impose rates that earn ever increasing returns, while simultaneously lowering the quality of those services, is strong evidence that customers rarely have alternative sources of supply
32. At the same time, interexchange carriers ("IXCs") and other competitive local carriers have been increasingly forced by the lack of regulatory or competitive alternatives to rely on the Bells' deregulated access services, even to provide competitive local services. As explained in the accompanying Declaration of Mr. Friedlander, each of the RBOCs has experienced double-digit annual growth in special access usage." As a consequence of increasing prices and increasing volumes, overall RBOC special access revenues have

⁹ See Notice of Proposed Rulemaking, *Performance Measures and Standards for Interstate Special Access Services*, CC Docket No 01-321 (Nov 19, 2001); Comments of AT&T, CC Docket No 01-321 (filed January 22, 2002)

¹⁰ See Comments of AT&T, CC Docket No 01-321 (filed January 22, 2002)

¹¹ See Friedlander Decl ¶ 6 & Exhibit 2

more than tripled since 1996, from \$3.4 billion to \$12.0 billion. All RBOCs have participated in this trend, which has accelerated in recent years

33. Of course, if viable alternatives to the last mile of the RBOCs' facilities actually existed, the RBOCs would not be able to impose large rate increases, lower quality, and simultaneously increase overall usage of their networks. Nor have carriers been able to use UNEs to bypass the RBOCs' special access services. As we explain below, and as AT&T has explained in even greater detail in the Triennial UNE Review Proceeding, because of the Commission's use and commingling restrictions on enhanced extended links ("EELs"), IXC and CLECs must rely on RBOC special access to provide both exchange access *and* local service.

N. HIGH BARRIERS TO ENTRY HAVE ALLOWED FEW COMPETITIVE ALTERNATIVES TO THE RBOCs' SPECIAL ACCESS SERVICES DESPITE THEIR HIGH PRICE AND LOW QUALITY.

A. The Marketplace Evidence Confirms That There Are Few Alternatives To RBOC Special Access Services.

34. An equally significant indication of the RBOCs' ability to maintain their monopoly power over special access is the absence of significant new facilities-based entry in response to the high price and low quality of the RBOCs' services. Three years after the Commission began its experiment in deregulation, facilities-based competition for special access remains limited, costly, inefficient and unreliable
35. AT&T has provided substantial evidence, both in the testimony accompanying this filing and in the Triennial Review Proceeding, that, despite billions of dollars in investments, AT&T and other CLECs have been able to replicate only a small fraction of the Bells'